REMARKS

In this broadening reissue application, claims 1-23, 28-34, and 40-69 are pending (the examiner has failed to recognize claim 34 as pending). No claims are currently amended. As discussed below, the Applicant's attorney disagrees with the prior-art rejection as discussed below, and thus requests withdrawal of this rejection.

Original Patent

The Assignee will surrender the original patent, or will submit a declaration as to loss or inaccessibility of the original patent, after the Examiner allows all of the pending claims over the prior art.

Oath

The Applicant will file a supplemental reissue declaration upon completion of prosecution and satisfaction of the Examiner's objections and/or rejections to the claims over the prior art.

Rejection of Claims 59-61 and 68-69 Under 35 U.S.C. § 102(b) in View of U.S. Patent 5,034,626 to Pirez et al.

Claim 59

Claim 59 recites sinking from a node a reference current having a first temperature coefficient, sourcing to the node a current having approximately the first temperature coefficient and being related to a power-supply voltage, and comparing the reference current to the supply-related current.

For example, referring, *e.g.*, to FIG. 2 and the corresponding text of the patent application, a goal of the circuit of FIG. 2 is to maintain the voltage Vsum at a constant level for a given Vcc despite changes in temperature. That is, a goal of the circuit is to allow Vsum to change with Vcc but not with temperature. To achieve this goal, the current sources A and B together sink from the node Vsum a current having a temperature coefficient, and the current sources C and D together source to the node Vsum a current having approximately (ideally exactly) the same temperature coefficient. Therefore, as the temperature changes, the change in the current sinked by A and B

matches the change in the current sourced by C and D such that the voltage Vsum is unchanged. To further explain this phenomenon, let's represent the current sources A and B as a resistor R1, and the current sources C and D as a resistor R2. Because R1 and R2 are in series, Vsum = Vcc(R1/[R1+R2]). If we increase both R1 and R2 by a factor of X and maintain Vcc constant, Vsum is unchanged because Vsum = Vcc(XR1/X[R1+R2]) = Vcc(R1/[R1+R2]) (the "X's" cancel). Therefore, by generating currents with the same temperature coefficient, the combined current sources A/B and C/D are effectively changing their impedances with temperature by the same factor X such that the impedance ratio (A/B)/[A/B+C/D], and thus the level of Vsum, do not change with temperature. Conversely, if the temperature coefficients of these currents were not the same, then Vsum would change with temperature.

In contrast, referring, *e.g.*, to FIG. 1 and the related text of Pirez, the current sourced to the node 48 does not have the same temperature coefficient as the current sinked from the node 48 because the voltage at the node 48 does change with temperature (this is what Pirez desired) as described below.

Pirez's circuit 10 generates a current Ibias that stays approximately constant with changes in temperature. Specifically, a summer 16 generates Ibias as the sum of a current I3 having a negative temperature coefficient with a current I6 having a positive temperature coefficient. Therefore, an increase in I3 is offset by a decrease in I6, and vice-versa, such that Ibias is constant over temperature.

But unlike the claimed sourced and sinked currents that have approximately the same temperature coefficients, the current sourced to the node 48 by the transistor 34 has a different temperature coefficient than the current sinked from the node 48 by the transistors 38 and 46. As temperature increases, the Vbe's of the transistors 38 and 46 decrease, thus decreasing the current sinked from the node 48. Conversely, as temperature increases, the Vt of the transistor 34 decreases, thus increasing the current that the transistor 34 "wants" to source to the node 48. Of course, because the same current I2 must flow through transistors 34, 38, and 46 (neglecting base currents), I2 takes on the decreased value set by the transistors 38 and 46. But as discussed above in conjunction with FIG. 2 of the patent application, because the transistor 34 "wants" to source more current to the node 48 than the transistors 38 and 46 "want" to sink, the impedance of the transistor 34 effectively decreases and the impedances of the

transistors 38 and 46 effectively increase (*i.e.*, the impedances do not change by the same factor X), thus increasing the voltage at the node 48. This increased voltage at the node 48 decreases the current I3, which thus follows the decrease in I2 as Pirez intended. Consequently, because the voltage at the node 48 changes with temperature, it follows that the current sourced by the transistor 34 does not have the same temperature coefficient as the current sinked by the transistors 38 and 46. If these currents did have the same temperature coefficient, then the voltage at the node 48 would remain constant with temperature as discussed above in conjunction with FIG. 2 of the patent application.

Claims 68 and 69

These claims are patentable for reasons similar to those recited above in support of the patentability of claim 59.

CONCLUSION

In addition to the claims 1-23, 28-34, 40-58, and 62-67, claims 59-61 and claims 68-69 are patentable over the prior art, thus making the application in condition for allowance subject to filing a supplemental reissue declaration and surrendering the original patent or declaring that the original patent is unavailable for surrender. Such allowance is respectfully requested.

In the event additional fees are due as a result of this amendment, payment for those fees has been enclosed in the form of a check. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

If the Examiner believes that a phone interview would be helpful, he is respectfully requested to contact the Applicant's attorney, Bryan Santarelli, at (425) 455-575.

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Respectfully submitted,

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